



The New Method of Photographing Live Fish.

PICTURES OF MOVING FISH.

A Frenchman's Snap Shots at the Finny Tribe.

HIS SUBJECTS ARE IN AN AQUARIUM.

The Result Is Wonderful and Seems Almost a Photographic Miracle.

Race horses have been photographed in motion in this country, but it has remained for a foreign artist, M. Marey, to record on a sensitive plate the movements of marine animals in their native element.

There is something strongly suggestive of Jules Verne's observation chamber of Nautilus in the device employed by the famous photographer to give to the scientific knowledge of the deep.

With the aid of the deep in its peculiarities. "Chronophotography" is the name given by its discoverer to this new form of photography. By it he has been enabled to examine not only the motions of eels, sharks, toads, etc., but also very small marine animals. This was originally a matter of extreme difficulty, as a brilliant illumination, not to be had with an ordinary aquarium, was necessary. To remove this obstacle, M. Marey had a special apparatus made, which, to a certain extent, made his work much easier.

This crude contrivance was nothing more nor less than an aquarium, with front and back glass sides, which was placed in an opening made in an outer wall. The light, therefore, penetrated the darkened chamber through the medium of the transparent glass sides, separated by the semi-transparent water, in which the fish were swimming. This arrangement gave the fish the appearance of silhouettes against a light background.

After devoting considerable thought to the subject, M. Marey finally hit upon another scheme. This was to place the aquarium somewhat lower than the opening and provide it with an opaque trap, or, at which could be swung up or down, as necessary to illuminate the aquarium in the manner first mentioned, the back being entirely closed. Thus the fish were completely shut out from the light entering from above and were forced to look up at the light source, which was at an angle of forty degrees. A mirror placed above it, from thirty to fifty exposures a second were then made by the photographic apparatus, which was placed in the dark room, behind and opposite the aquarium, in such a manner that the occupants were in the field of the objective.

The negatives are made on flexible films, a roll of unexposed film being placed in the camera, the free end of which is secured to a second roller, so that when the latter is set in motion, the film is rolled upon it, and unrolled from the other. The exposures, however, must be made during the unrolling of the film. No matter how rapidly the exposures are made, the film must be perfectly stationary at the instant, and an arrangement is provided by which the film is held flat against the plate of the roller-holders during the exposure. Motion is communicated to the roll by means of clock-work, which at the same time rotates the disc by which the exposures are made, openings being made in the disc, and when, in the course of a revolution, one of these comes opposite the objective, an exposure is made.

During the rapid movements of the film, it traverses thirty-two inches a second, and is held stationary forty or fifty times. In order to avoid tearing the film it passes over an elastic flexible plate, just before it is wound upon the roller. The plate gives the instant the film is arrested in its motion and springs back again as soon as the same is released. Exposed rolls may be removed and fresh ones substituted in broad daylight.

In photographing the movements of jelly-fish—which, by the way, are transparent—only from ten to twelve pictures were taken, the number being all that was necessary, owing to the slowness of the medusa's movements. The exposure was made with illumination coming from above and a dark background. Twenty exposures a second, however, were necessary to obtain the movements of the sea-anemones, which are both rapid and un-

investigations of marine life, as conducted by M. Marey through his new invention, is interesting to the piscatorial and scientific world, as are the pictures to the medusist.

HOW NOT TO GROW OLD.

The Latest Scientific Theory is to Keep Young by Treating the Arteries.

English medical experts have discovered a preventive for old age. Dr. E. C. Regester and Dr. J. C. Montgomery, of London, prepared a scientific treatise, in which they speak of the discovery with enthusiasm. They propose to adjourn the ravages of age by treating the arteries. The keynote of their system is that "a man is only as old as his arteries." The principal form of degeneration in the human frame is known as atheroma, and this discovery aims at removing this cause. Atheroma consists principally in blocking up the blood vessels with calcareous matter, and this hinders nutrition. In other words, man commences in the calcareous state and ends in the calcareous. The endeavor is simply to put off the danger of this latter condition.

Joseph Medill, the editor of the Chicago Tribune, has recently been making a series of experiments to ascertain the possibilities of the new treatment. He decided that one of the principal causes of atheroma came from drinking ordinary water. Since water is the great solvent, it gathers in passing through different soils various salts. If taken into the system in large quantities it is likely to leave deposits in the arteries.

Many of the commonest foods are also bearers of this calcareous matter. The cereals contain it in considerable quantity, and the flesh of animals, especially that of the older animals, is rich in it. In short, the more nitrogenous matter there is in the food we digest the more we lay ourselves open to the deposits of these calcareous salts. We grow old just in proportion as our systems secrete the phosphates and the carbonates of lime. The number of years one may have lived does not necessarily make a man old. One ages in proportion to the condition of the arteries.

One of the most important of these salts is calcium, and it is this which, when in excess, causes atheroma. There are, besides, certain salts of treating these arteries directly. This will keep them in their original or gelatinous condition. It is claimed that a proper attention to these tendencies will keep a man young for an indefinite number of years. These enthusiasts go so far as to calculate just how much a man is likely to shorten his life. They contend that a lack of a sufficient amount of regular exercise tends directly to bring on the "disease," commonly known as old age. All forms of dislocation, tend to lessen one's chances of continual youth, since they tend to block up the bloodvessels and hinder nutrition. The friends of the new theory argue that the great age to which many a man mentioned in the Bible attained was due to the unconscious obedience to the rules governing the arteries.

DICKERED OVER CUBA.

How France Lost the Island Because Louis Philippe Followed Bargain Counter Methods.

It is not generally known that the Island of Cuba once came very near to being a French possession, during the reign of Louis Philippe, and would have been if that King had not bargained so about the price. The story reads like a romance, though it is said to be authentic.

Queen Christine, it appears, at that time offered to sell her principal colonial possessions to France in order to pay the debts of the Spanish court. There was a long series of discussions at Paris between Senor Campano, the Spanish envoy, and Prince Talleyrand and King Louis Philippe. It is said that the proposed agreement comprised two articles: The first, which gave Cuba to France for about 20,000,000 francs, was signed without difficulty; but the second, which related to Porto Rico and the Philippine Islands, was the rock on which further negotiations were wrecked.

Louis Philippe could not resist the temptation to bargain, and so when the Spanish envoy stated the price for these bits of land was 10,000,000 francs, the King of France, who was avaricious, refused to give him 20,000,000 francs, as a pretext for the sale of the Philippines would be demanded to, but who considered that by selling her possessions Spain was dishonored. The King, therefore, refused to sign the agreement, and the matter was dropped. And thus it was that the King of France's bourgeois son caused a rich prize to slip from his grasp.

EDISON IN OBLIVION.

So Deep in His Work He Did Not Remember That His Wife Had Been Absent.

The Sunday Journal's great story of Edison's discovery of a method of enabling the human eye to see through solid wood, called attention to the inventor's complete isolation from the things of the world while he was at work. Of this fact Mrs. Edison herself once had a strong proof. The inventor's wife left home for an absence of two weeks, and said good-by to her husband in his laboratory. Two weeks Edison plodded on, turning night into day and day into night, sleepless, tireless, lost in the mystery of nature's wonders.

Two weeks later Mrs. Edison returned, and, not finding him in the house, sought him in the laboratory. The inventor expressed neither surprise nor interest in her arrival. He did not know, in fact, that she had been absent. He did not come forward to greet her in a husbandly way, but calmly returned her to a seat and went on experimenting, oblivious even of his wife. She remained afterward that he had not been out of the laboratory for two weeks, and that those two weeks had been for him one long night, of almost unbroken toil.

PLAYS FROM WOMAN'S PENS

Four London Theaters Now Producing Phen.

TWO AMERICAN GIRL PLAYRIGHTS.

One of Them, Miss Fletcher, Had a Romance With an Eccentric Grandson of Byron.

Women are coming to the fore this year as playwrights. There are no less than four London theatres running plays written by women—pieces recognized as notable successes.

At Terry's Theatre "Tedbury Junior," written by Mrs. Ryker, better known on the American stage as Madeline Lucette, is attracting large crowds and earning the commendation of her critics. At the Vandeville "The Romance of the Shop-walker" has for its chief author "Charles Marlowe," who is the pen name of Mrs. J. H. Marlowe. At the Comedy Theatre "A Honey-moon Tragedy," the comedietta which opens the performance, is by Mrs. W. K. Clifford, while the other two pieces that figure on the programme, namely "Blue and Green" and "The Bicycle," are by Mrs. Hugh Bell.

At the Garrick Theatre "Mrs. Lessingham," by Miss Fletcher, who writes under the pen name of "George Fleming," is holding the boards, and another play by this gifted playwright and authoress is produced by the management of the Garrick. Miss Fletcher is an American, and the peculiar tinge of melancholy, as well as of disillusion, which is apparent in her plays as well as her novels, is attributable to a certain romantic episode in her career which remains to this day enveloped in mystery. She was at one time engaged to the married Earl of Epsom, a grandson of Lord Byron, his mother having been the daughter Ada to whom so many of the most exquisite poems of the great English bard were addressed.

Lord Lovelace is a very eccentric individual, who combines with a superabundant amount of physical strength ideas similar to those possessed by Tolstoy, and in spite of his wealth for several years he lived his life as a peasant. His oldest brother, also a peer of the realm, manifested a similar eccentricity, and died suddenly while working as an ordinary shipwright at Deptford.

Lord Lovelace married early in life a Miss Heriot, with whom he did not live happily. He remained devoted to her, but she, after a long and painful struggle, before the case came up for hearing. The death of his wife was a great shock to him, and he became very melancholy. Miss Louisa Fletcher, who at the time had just achieved some fame as the author of a well-entitled "romance," the marriage was fixed for Christmas Day, 1870, at Rome. Everything seemed to be going smoothly when Miss Fletcher, a few days before Christmas, received a letter from her noble fiancé, who bore at the time the title of Lord Wentworth, which must have contained some terrible news, for she became unconscious and lay for a time between life and death. It soon became known that Lord Wentworth had broken off the engagement. The real reason for the rupture none of the friends of either party knew to this day. It is believed, however, that the cause was a quarrel over the management of the Strand Theatre, which has since been pictured by Miss Fletcher in one of her novels. Lord Lovelace, a year later, married a member of the Stewart-Wortley family.

Other plays written by women which have been placed upon the boards since the beginning of the present season are "The Curtain-Raiser," "Gaffer-Jargie," by Mrs. Cecil Ramsey, who has the advantage of being the wife of a popular and experienced actor. Miss Florence Warden is responsible for the four-act comedy "Uncle Mike," recently running at Terry's, while one of the most successful women dramatists in the world, Mrs. Musgrave, the author of the screaming farce "Our Flat," which spent luck for the management of the Strand Theatre, was dramatized by Mrs. Oscar Rejlander, while the "Bud and Blossom," at Terry's, comes from the pen of Lady Colin Campbell, the sister-in-law of Princess Louise, Marchioness of Lorne. Mrs. Pacheo has given to the stage an entertaining play entitled "Tom, Dick and Harry." Mrs. Craigie, better known under the pen name of "John Oliver Hobbes," has written in collaboration with George Moore, "Journey's End in Lovers Meeting." Augusta Holmes has achieved the distinction of having one of her operas produced at the Grand Opera at Paris, while Lady Greville has had the satisfaction of seeing her words "Lady Violet Greville" posted in letters about two feet high all over London as the noble authoress of "The Aristocratic Alliance," which had a run at Mr. Wyndham's Criterion Theatre.

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HOW WE CAN ALL BE GOOD LOOKING.

How Dermatological Skill Improves Upon Nature.

Thanks to the skill of dermatological surgery, it is possible for all to be good looking, or at least to have their appearances improved to a large degree.

The following illustrations are reduced from photographs of a young woman taken before and after a "hump" on her nose and a mole on her cheek were removed at the John H. Woodbury Dermatological Institute.

Although this young woman was wealthy and had a charming manner and sweet disposition, her pleasures of life were marred by her irregular features.



ures. To-day many of her friends fail to recognize her, so much improved is her appearance.

The operation was made painless by cocaine; it was performed in less than two hours, and left no scar. The patient was obliged to wear a thin plaster on her nose for a few days, but within two weeks from the time she stepped into the operating chair she was transformed into another person, and no traces of the transformation remained.

Although an operation which makes such an improvement in one's appearance appears difficult, if not impossible, it is really very simple. The skin of the nose was laid back, and sufficient cartilage and bone were removed to give the nose a straight line.

Then the skin was restored to its natural position, the edges carefully matched, and a very thin and fine adhesive plaster was applied.

The raw edges of the skin healed and united in a few days, and no larger scar resulted than would be seen on your face six months, after if you scratched it skin deep.

A flat nose is the reverse of a pronounced Roman, and it detracts even more from one's appearance; but flat noses can easily be improved and changed to a natural position.

This operation is simple in the extreme, and consists in building up the nose by inserting a platinum bridge,



which causes the organ to retain its new shape permanently and naturally. This is easily and quickly accomplished by operating solely upon the nose itself and from the surface.

These two operations give only a slight conception of what is being done daily at the Woodbury Institute in the way of improving personal appearances.

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